

ISO 22671:2007-02 (E)

Space data and information transfer systems — Space link extension (SLE) —
Forward communications link transmission unit (CLTU) service

CONTENTS

<u>Section</u>	<u>Page</u>
1 INTRODUCTION.....	1-1
1.1 PURPOSE OF THIS RECOMMENDATION.....	1-1
1.2 SCOPE.....	1-1
1.3 APPLICABILITY.....	1-1
1.4 RATIONALE.....	1-2
1.5 DOCUMENT STRUCTURE.....	1-2
1.6 DEFINITIONS, NOMENCLATURE, AND CONVENTIONS.....	1-5
1.7 REFERENCES.....	1-12
2 DESCRIPTION OF THE FORWARD CLTU SERVICE.....	2-1
2.1 OVERVIEW.....	2-1
2.2 SPACE LINK EXTENSION REFERENCE MODEL.....	2-2
2.3 SERVICE MANAGEMENT.....	2-3
2.4 ARCHITECTURE MODEL – FUNCTIONAL VIEW.....	2-3
2.5 ARCHITECTURE MODEL – CROSS-SUPPORT VIEW.....	2-6
2.6 FUNCTIONAL DESCRIPTION.....	2-7
2.7 OPERATIONAL SCENARIO.....	2-14
2.8 SECURITY ASPECTS OF THE SLE FORWARD CLTU TRANSFER SERVICE.....	2-15
3 FORWARD CLTU SERVICE OPERATIONS.....	3-1
3.1 GENERAL CONSIDERATIONS.....	3-1
3.2 CLTU-BIND.....	3-7
3.3 CLTU-UNBIND.....	3-14
3.4 CLTU-START.....	3-18
3.5 CLTU-STOP.....	3-22
3.6 CLTU-TRANSFER-DATA.....	3-25
3.7 CLTU-ASYNC-NOTIFY.....	3-32
3.8 CLTU-SCHEDULE-STATUS-REPORT.....	3-38
3.9 CLTU-STATUS-REPORT.....	3-42
3.10 CLTU-GET-PARAMETER.....	3-47
3.11 CLTU-THROW-EVENT.....	3-51
3.12 CLTU-PEER-ABORT.....	3-56
4 CLTU PROTOCOL.....	4-1
4.1 GENERIC PROTOCOL CHARACTERISTICS.....	4-1
4.2 CLTU SERVICE PROVIDER BEHAVIOR.....	4-4

CONTENTS (continued)

<u>Section</u>	<u>Page</u>
ANNEX A DATA TYPE DEFINITIONS	A-1
ANNEX B INDEX TO DEFINITIONS.....	B-1
ANNEX C ACRONYMS	C-1
ANNEX D CONFORMANCE OPTIONS MATRIX	D-1
ANNEX E INFORMATIVE REFERENCES.....	E-1
ANNEX F THROW EVENT DEFINITIONS	F-2
ANNEX G PRODUCTION STATUS	G-1

Figure

1-1 SLE Services Documentation.....	1-4
2-1 Forward TC Space Link Processing SLE-FG	2-4
2-2 Forward CLTU Service Production and Provision	2-5
2-3 Example of Management and Provision of Forward CLTU Service	2-6
2-4 Forward CLTU Service Provider State Transition Diagram.....	2-9
2-5 Communications Realization of Forward CLTU Service	2-12
G-1 CLTU Production Status Transitions	G-1

Table

2-1 Forward CLTU Service Operations.....	2-8
3-1 Setting of Forward CLTU Service Configuration Parameters	3-6
3-2 CLTU-BIND Parameters.....	3-8
3-3 CLTU-UNBIND Parameters	3-15
3-4 CLTU-START Parameters	3-18
3-5 CLTU-STOP Parameters.....	3-22
3-6 CLTU-TRANSFER-DATA Parameters.....	3-25
3-7 CLTU-ASYNC-NOTIFY Parameters	3-32
3-8 CLTU-SCHEDULE-STATUS-REPORT Parameters.....	3-38
3-9 CLTU-STATUS-REPORT Parameters.....	3-42
3-10 CLTU-GET-PARAMETER Parameters	3-47
3-11 Forward CLTU Parameters	3-49
3-12 CLTU-THROW-EVENT Parameters.....	3-52
3-13 CLTU-PEER-ABORT Parameters	3-56
4-1 Behavior of Provider	4-6
4-2 Event Description References	4-9
4-3 Predicate Definitions	4-9
4-4 Boolean Flags	4-10
4-5 Compound Action Definitions.....	4-10

<u>Table</u>	<u>Page</u>
D-1 Conformance Matrix for CLTU Service (Operations)	D-1
D-2 Conformance Matrix for CLTU Service (Other Requirements).....	D-2
F-1 Throw Event Examples	F-2
G-1 Production Status Changes and Notifications	G-2
G-2 Effect of Production Status on Operations	G-3